



Appendix A

For the convenience of the Examiner, a copy of all pending claims is set forth below.

1. A system for retrieving data from a database using a data management system, comprising:

a change retrieval engine coupled to the data management system and operable to:
determine that data in the database managed by the data management system has been changed;

receive information from the data management system identifying a particular business object with which the changed data is associated;

access a data model specifying, for each of a plurality of business objects including the particular business object, references to one or more tables managed by the data management system that include data related to the business object;

identify according to the data model the tables specified for the particular business object to identify data to be retrieved from the database using the data management system according to the received information;

request from the data management system the data to be retrieved included in the tables identified according to the data model;

receive the data from the data management system;

store the data in a data log; and

communicate a transfer command; and

a change transfer engine coupled to the change retrieval engine and operable to:

receive the transfer command;

obtain the data from the data log; and

communicate the data to an external system.

2. The system of Claim 1, wherein:
the data management system comprises an enterprise resource planning (ERP) system; and

the external system comprises an external planning system.

3. The system of Claim 1, wherein the change retrieval engine is further operable to monitor the data management system to determine when a change document is created, the change document indicating that data managed by the data management system has been changed.

4. The system of Claim 1, wherein the change retrieval engine is further operable to receive a message from the data management system indicating that data managed by the data management system has been changed.

5. Cancelled.

6. The system of Claim 1, wherein the business objects are identified in the data model by a business object name.

7. The system of Claim 1, wherein the business objects are identified in the data model by a name of a main table of data associated with the business object in the data management system.

8. The system of Claim 1, wherein the change retrieval engine is further operable to receive one or more key values from the data management system, each key value identifying an instance of the particular business object for which data was changed.

9. The system of Claim 1, wherein the change retrieval engine is further operable to request data from the tables that are associated with one or more instances of the particular business object, the instances of the particular business object identified by one or more key values received from the data management system.

10. The system of Claim 1, wherein the change retrieval engine is further operable to:

apply field reductions to the tables identified according to the data model, the field reductions indicating one or more fields of the tables containing desired data; and

request from the data management system data from the fields indicated as containing desired data.

11. The system of Claim 1, wherein the change retrieval engine is further operable to:

apply field filters to the tables identified according to the data model, the field filters indicating the desired data in the tables; and

request from the data management system the desired data.

12. Cancelled.

13. The system of Claim 1, wherein the change retrieval engine is further operable to:

access a distribution model to determine one or more serialization groups into which the data identified by the data model is to be divided; and

store the data received from the data management system in the data log according to the serialization groups.

14. The system of Claim 13, wherein the change retrieval engine is further operable to:

access the distribution model to determine destination information for one or more external systems to which the data in the serialization groups is to be communicated; and

store the destination information for the one or more external systems with the serialization groups in the data log.

15. The system of Claim 14, wherein the change transfer engine is further operable to communicate the serialization groups to the external systems identified by the destination information, the data in each serialization group communicated to the associated external system in an order that the data in the database was changed.

16. The system of Claim 13, wherein the change transfer engine is further operable to:

access the distribution model to determine destination information for one or more external systems to which the data in the serialization groups is to be communicated; and

communicate the serialization groups to the appropriate external systems using the destination information, the data in each serialization group communicated to the associated external system in an order that the data in the database was changed.

17. The system of Claim 1, wherein the change transfer engine is further operable to:

create an error log if data is not communicated to an external system;

receive a second transfer command indicating additional data has been stored in the data log; and

communicate the data associated with the error to the external system before communicating the additional data to the external system.

18. A method for retrieving data from a database using a data management system, comprising:

determining that data in the database managed by the data management system has been changed;

receiving information from the data management system identifying a particular business object with which the changed data is associated;

accessing a data model specifying, for each of a plurality of business objects including the particular business object, references to one or more tables managed by the data management system that include data related to the business object;

identifying according to the data model the tables specified for the particular business object to identify data to be retrieved from the database using the data management system according to the received information;

requesting from the data management system the data to be retrieved included in the tables identified according to the data model; and

communicating the data to an external system.

19. The method of Claim 18, wherein:

the data management system comprises an enterprise resource planning (ERP) system; and

the external system comprises an external planning system.

20. The method of Claim 18, wherein determining that data managed by the data management system has been changed comprises monitoring the data management system to determine when a change document is created, the change document indicating that data managed by the data management system has been changed.

21. The method of Claim 18, wherein determining that data managed by the data management system has been changed comprises receiving a message from the data management system indicating that data managed by the data management system has been changed.

22. Cancelled.

23. The method of Claim 18, wherein the business objects are identified in the data model by a business object name.

24. The method of Claim 18, wherein the business objects are identified in the data model by a name of a main table of data associated with the business object in the data management system.

25. The method of Claim 18, further comprising receiving one or more key values from the data management system, each key value identifying an instance of the particular business object for which data was changed.

26. The method of Claim 18, wherein the method further comprises:
receiving one or more key values from the data management system, the key values identifying instances of the particular business object; and
requesting the data identified according to the data model comprises requesting data from the tables that are associated with one or more instances of the particular business object.

27. The method of Claim 18, wherein the method further comprises applying field reductions to the tables identified according to the data model, the field reductions indicating one or more fields of the tables from which to request data from the data management system.

28. The method of Claim 18, wherein the method further comprises applying field filters to the tables identified by the data model, the field filters indicating the relevant data in the tables to be requested from the data management system.

29. Cancelled.

30. The method of Claim 18, further comprising:
accessing a distribution model to determine one or more serialization groups into which the data identified by the data model is to be divided;
accessing the distribution model to determine destination information for one or more external systems to which the data in the serialization groups is to be communicated; and
communicating the serialization groups to the external systems identified by the destination information, the data in each serialization group communicated to the associated external system in an order that the data in the database was changed.

31. The method of Claim 18, further comprising:
creating an error log if data is not communicated to an external system; and
communicating the data associated with the error to the external system before communicating additional data received from the data management system to the external system.

32. A system for retrieving data from a database using a data management system, comprising:
a database operable to store data;
a data management system operable to access and change the data in the database; and
a data access interface system operable to:
receive information from the data management system identifying a particular business object with which the changed data is associated;
access a data model specifying, for each of a plurality of business objects including the particular business object, references to one or more tables managed by the data management system that include data related to the business object;
identify according to the data model the tables specified for the particular business object to identify data to be retrieved from the database using the data management system according to the received information;
request from the data management system the data to be retrieved included in the tables identified according to the data model; and
communicate the data to an external system.

33. Software for retrieving data from a database using a data management system, the software being embodied in computer-readable media and when executed operable to:

determine that data in the database managed by the data management system has been changed;

receive information from the data management system identifying a particular business object with which the changed data is associated;

access a data model specifying, for each of a plurality of business objects including the particular business object, references to one or more tables managed by the data management system that include data related to the business object;

identify according to the data model the tables specified for the particular business object to identify data to be retrieved from the database using the data management system according to the received information;

request from the data management system the data to be retrieved included in the tables identified according to the data model;

receive the requested data from the data management system; and
communicate the received data to an external system.

34. The software of Claim 33, further operable to monitor the data management system to determine when a change document is created, the change document indicating that data managed by the data management system has been changed.

35. The software of Claims 33, further operable to receive a message from the data management system indicating that data managed by the data management system has been changed.

36. The software of Claims 33, wherein the business objects are identified in the data model by a name of a main table of data associated with the business object in the data management system.

37. The software of Claims 33, further operable to receive one or more key values from the data management system, each key value identifying an instance of the particular business object for which data was changed.

38. The software of Claims 33, further operable to request data from the tables that are associated with one or more instances of the particular business object, the instances of the particular business object identified by one or more key values received from the data management system.

39. The software of Claims 33, further operable to:
apply field reductions to the tables identified according to the data model, the field reductions indicating one or more fields of the tables containing desired data; and
request from the data management system data from the fields indicated as containing desired data.

40. The software of Claims 33, further operable to:
apply field filters to the tables identified according to the data model, the field filters indicating the desired data in the tables; and
request from the data management system the desired data.

41. The software of Claims 33, further operable to:
access a distribution model to determine one or more serialization groups into which the data identified by the data model is to be divided; and
store the data received from the data management system in the data log according to the serialization groups.

42. The software of Claims 33, further operable to:
create an error log if data is not communicated to an external system;
receive a second transfer command indicating additional data has been stored in the data log; and
communicate the data associated with the error to the external system before communicating the additional data to the external system.

43. A system for retrieving data from a database using a data management system, comprising:

means for determining that data in the database managed by the data management system has been changed;

means for receiving information from the data management system identifying a particular business object with which the changed data is associated;

means for accessing a data model specifying, for each of a plurality of business objects including the particular business object, references to one or more tables managed by the data management system that include data related to the business object;

means for identifying according to the data model the tables specified for the particular business object to identify data to be retrieved from the database using the data management system according to the received information;

means for requesting from the data management system the data to be retrieved included in the tables identified according to the data model;

means for receiving the requested data from the data management system; and

means for communicating the received data to an external system.